

North American Electricity and Environment Model (NEEM) Region

File Geodatabase Feature Class



Tags

NEEM, Region, EIPC, EISPC, ANL, ORNL

Summary

This layer shows modified EIPC MRN-NEEM regions for the Eastern Interconnection.

Description

The Eastern Interconnection Planning Collaborative (EIPC) conducted a study over the past two years of the Eastern Interconnection (EI) using several models, including the MRN-NEEM model from Charles Rivers Associates (CRA). In that model, CRA separated the EI into 24 different regions (and the rest of the US and Canada into 9 non-EI regions) called NEEM regions. CRA identified the balancing areas and control regions within each region for purposes of determining electrical loads and supplies (Appendix A tables), but only had an obsolete version of the map showing these regions.

To create a new version of the map for display purposes, we began with the map of the regions used by the Energy Information Administration (EIA) for their National Energy Modeling System (NEMS). This recent update to their electric module regions captures many of the same boundaries that NEEM uses.

Several NEEM region borders (such as Canadian regions and the split in California) were not in the NEMS map and so had to be drawn in. Several NEEM regions also had somewhat different borders than NEMS, such as TVA, Entergy, and VACAR. The most difficult map changes were to represent the regions that overlapped other, larger regions (MAPP_US and Non-RTO Midwest).

To best approximate the boundary changes needed for each of these regions, maps for various utilities were found from their websites.

After modifications were made to the map, it was sent to the EIPC for confirmation. A few changes were suggested, with the version most used being version 5. Further analysis suggested changes in the map for TVA and to color the Canadian provinces within the EI.

The modified NEEM region map was then digitized at Argonne National Lab. Scale of data is intended for 1:20,000,000.

The input assumptions contained herein reflect a joint assumptions development process between EIPC, EIPC stakeholders and CRA for purposes of EIPC capacity expansion modeling. As such, these inputs do not necessarily reflect the opinions or views of CRA or any individual EIPC stakeholder.

Credits

Stanton W. Hadley - Oak Ridge National Laboratory; Andrew Orr - Argonne National Laboratory

Use limitations

None listed.

Extent

West -2356113.497700m East 2258224.710100 m

North 3172555.560200 m South 267910.933800 m

Scale Range

Maximum (zoomed in) 1:20,000,000

Minimum (zoomed out) 1:150,000,000

ArcGIS Metadata ▶

Topics and Keywords ▶

THEMES OR CATEGORIES OF THE RESOURCE boundaries, utilitiesCommunication

Hide Topics and Keywords ▲

Citation ▶

TITLE NEEEM Region

PRESENTATION FORMATS *digital map

Hide Citation ▲

Citation Contacts ▶

RESPONSIBLE PARTY

INDIVIDUAL'S NAME Stanton W. Hadley

ORGANIZATION'S NAME Oak Ridge National Laboratory

CONTACT'S ROLE resource provider

CONTACT INFORMATION ▶

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RESPONSIBLE PARTY

INDIVIDUAL'S NAME Andrew Orr

ORGANIZATION'S NAME Argonne National Laboratory

CONTACT'S POSITION GIS Analyst

CONTACT'S ROLE processor

CONTACT INFORMATION ▶

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ADMINISTRATIVE AREA IL

COUNTRY US

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Hide Contact information ▲

Hide Citation Contacts ▲

Resource Details ▶

DATASET LANGUAGES *English (UNITED STATES)

DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

SPATIAL REPRESENTATION TYPE vector

SPATIAL RESOLUTION

DATASET'S SCALE

SCALE DENOMINATOR 1:20,000,000

*PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.3.1.4959

CREDITS

Stanton W. Hadley - Oak Ridge National Laboratory; Andrew Orr - Argonne National Laboratory

ARCGIS ITEM PROPERTIES

*NAME land_neem_regions

*LOCATION

*ACCESS PROTOCOL Local Area Network

Hide Resource Details ▲

Extents ►

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

WEST LONGITUDE -2356113.497700 m

EAST LONGITUDE 2258224.710100 m

NORTH LATITUDE 3172555.560200 m

SOUTH LATITUDE 267910.933800 m

EXTENT CONTAINS THE RESOURCE No

EXTENT IN THE ITEM'S COORDINATE SYSTEM

*WEST LONGITUDE -13888508.624800

*EAST LONGITUDE -7452820.828800

*SOUTH LATITUDE 2817030.840000

*NORTH LATITUDE 6340333.741800

*EXTENT CONTAINS THE RESOURCE Yes

Hide Extents ▲

Resource Points of Contact ►

POINT OF CONTACT

INDIVIDUAL'S NAME Andrew Orr

ORGANIZATION'S NAME Argonne National Laboratory

CONTACT'S POSITION GIS Analyst

CONTACT'S ROLE processor

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Hide Resource Points of Contact ▲

Resource Maintenance ▶

RESOURCE MAINTENANCE

UPDATE FREQUENCY not planned

MAINTENANCE CONTACT

INDIVIDUAL'S NAME Andrew Orr

ORGANIZATION'S NAME Argonne National Laboratory

CONTACT'S POSITION GIS Analyst

CONTACT'S ROLE processor

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Hide Resource Maintenance ▲

Resource Constraints ▶

CONSTRAINTS

LIMITATIONS OF USE

None listed.

Hide Resource Constraints ▲

Spatial Reference ▶

ARCGIS COORDINATE SYSTEM

* TYPE Projected

* GEOGRAPHIC COORDINATE REFERENCE GCS_WGS_1984

* PROJECTION WGS_1984_Web_Mercator_Auxiliary_Sphere

* COORDINATE REFERENCE DETAILS

PROJECTED COORDINATE SYSTEM

WELL-KNOWN IDENTIFIER 102100

X ORIGIN -20037700

Y ORIGIN -30241100

XY SCALE 10000

Z ORIGIN -100000

Z SCALE 10000

M ORIGIN -100000

M SCALE 10000

XY TOLERANCE 0.001

Z TOLERANCE 0.001
 M TOLERANCE 0.001
 HIGH PRECISION true
 LATEST WELL-KNOWN IDENTIFIER 3857
 WELL-KNOWN TEXT PROJCS["WGS_1984_Web_Mercator_Auxiliary_Sphere",GEOGCS
 ["GCS_WGS_1984",DATUM["D_WGS_1984",SPHEROID
 ["WGS_1984",6378137.0,298.257223563]],PRIMEM["Greenwich",0.0],UNIT
 ["Degree",0.0174532925199433]],PROJECTION["Mercator_Auxiliary_Sphere"],PARAMETER
 ["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER
 ["Central_Meridian",0.0],PARAMETER["Standard_Parallel_1",0.0],PARAMETER
 ["Auxiliary_Sphere_Type",0.0],UNIT["Meter",1.0],AUTHORITY["EPSG",3857]]

REFERENCE SYSTEM IDENTIFIER

* VALUE 3857
 * CODESPACE EPSG
 * VERSION 8.6.2

Hide Spatial Reference ▲

Spatial Data Properties ►

VECTOR ►

* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

GEOMETRIC OBJECTS

FEATURE CLASS NAME land_neem_regions
 * OBJECT TYPE composite
 * OBJECT COUNT 27

Hide Vector ▲

ARCGIS FEATURE CLASS PROPERTIES ►

FEATURE CLASS NAME land_neem_regions
 * FEATURE TYPE Simple
 * GEOMETRY TYPE Polygon
 * HAS TOPOLOGY FALSE
 * FEATURE COUNT 27
 * SPATIAL INDEX TRUE
 * LINEAR REFERENCING FALSE

Distribution ►

DISTRIBUTION FORMAT

* NAME File Geodatabase Feature Class

Hide Distribution ▲

Fields ►

DETAILS FOR OBJECT land_neem_regions ►

* TYPE Feature Class
 * ROW COUNT 27

DEFINITION

The name of the NEEM region.

FIELD OBJECTID ►

* ALIAS OBJECTID
 * DATA TYPE OID
 * WIDTH 4
 * PRECISION 0
 * SCALE 0
 * FIELD DESCRIPTION
 Internal feature number.

* DESCRIPTION SOURCE

Esri

* DESCRIPTION OF VALUES

Sequential unique whole numbers that are automatically generated.

Hide Field OBJECTID ▲

FIELD SHAPE ►

* ALIAS SHAPE

* DATA TYPE Geometry

* WIDTH 0

* PRECISION 0

* SCALE 0

* FIELD DESCRIPTION

Feature geometry.

* DESCRIPTION SOURCE

Esri

* DESCRIPTION OF VALUES

Coordinates defining the features.

Hide Field SHAPE ▲

FIELD Name_Abbr ►

* ALIAS Name_Abbr

* DATA TYPE String

* WIDTH 25

* PRECISION 0

* SCALE 0

Hide Field Name_Abbr ▲

FIELD Name ►

* ALIAS Name

* DATA TYPE String

* WIDTH 50

* PRECISION 0

* SCALE 0

Hide Field Name ▲

FIELD SHAPE_Length ►

* ALIAS SHAPE_Length

* DATA TYPE Double

* WIDTH 8

* PRECISION 0

* SCALE 0

* FIELD DESCRIPTION

Length of feature in internal units.

* DESCRIPTION SOURCE

Esri

* DESCRIPTION OF VALUES

Positive real numbers that are automatically generated.

Hide Field SHAPE_Length ▲

FIELD SHAPE_Area ►

* ALIAS SHAPE_Area

- * DATA TYPE Double
- * WIDTH 8
- * PRECISION 0
- * SCALE 0
- * FIELD DESCRIPTION
Area of feature in internal units squared.
- * DESCRIPTION SOURCE
Esri
- * DESCRIPTION OF VALUES
Positive real numbers that are automatically generated.

Hide Field SHAPE_Area ▲

Hide Details for object land_neem_regions ▲

Hide Fields ▲

Metadata Details ►

* METADATA LANGUAGE English (UNITED STATES)
 METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format
 METADATA IDENTIFIER 1F8870E1-08B5-4001-B6B2-BB7181E324BC

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset
 SCOPE NAME * dataset

LAST UPDATE 2013-01-07

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0
 METADATA STYLE FGDC CSDGM Metadata
 STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2016-10-06 13:19:26
 LAST MODIFIED IN ARCGIS FOR THE ITEM 2017-03-10 12:37:42

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes
 LAST UPDATE 2017-03-10 12:18:51

Hide Metadata Details ▲

Metadata Contacts ►

METADATA CONTACT

INDIVIDUAL'S NAME Stanton W. Hadley
 ORGANIZATION'S NAME Oak Ridge National Laboratory
 CONTACT'S ROLE resource provider

CONTACT INFORMATION ►

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Metadata Maintenance ►

MAINTENANCE

UPDATE FREQUENCY not planned

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Metadata Constraints ►

CONSTRAINTS

LIMITATIONS OF USE

No use limitation.

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Thumbnail and Enclosures ►

THUMBNAIL

THUMBNAIL TYPE JPG

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